XLIX. *Extract of a Letter from Mr.* John Winthrop, *Profeſſor of Mathematicks in* Cambridge, New England, *to* James Short, *A. M. F. R. S.*

S I R,

Dated June 6, 1764.

Read Nov. 15, 1764.

I AM greatly obliged to you for your candid and judicious remarks on my obſervation of Venus on the Sun, which I received from my much-eſteemed friend Dr. Franklin. I wrote to the Dr. pretty largely on the ſubject, which I deſired him to communicate to you: but when I had the pleaſure of a viſit from him laſt ſummer, he could not recollect whether he had done it or not. I therefore beg leave now to trouble you with the ſubſtance of it. Your remarks turned on two points, the longitude of the place of obſervation, and the equation of time when found by equal altitudes. As to the firſt, I was ſo diffident of the obſervation on the Moon, that I choſe to keep to the longitude of St. John's, as ſet down by Sir Jonas Moore, who makes it 52° 50′ Weſt of Greenwich. Though I did not think it needful to mention this doubt in the pamphlet, which was publiſhed ſoon after I got home, to gratify the curioſity of my countrymen, yet I expreſſed it fully in a written account of the obſervation, drawn up in a different form, and ſent to the late Dr. Bradley, but which I believe never reached his hands.

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As to the equation of the time of noon, depending on the change of the Sun's declination, I did not make it in that pamphlet. I had all along intended to calculate it when I ſhould ſettle the reſult of the obſervation, though I knew it muſt be very ſmall, as the Sun did not alter his declination, then, above 1′ in 4 hours. But when I came to obſerve the contacts, and found that I could not be ſure of them within 3″ or 4″, whereas Dr. Halley's papers led me to expect that I might obſerve them to a ſingle ſecond, I thought it hardly worth while to calculate this equation, as the preciſe moments of the contacts could not be fixed by it.—But I have ſince done it, and find it to be 4″ to be ſubſtracted from the middle time. An account of the obſervation, thus corrected, I ſent laſt ſummer to Profeſſor Bliſs at Greenwich, concluding, from his ſtation, that the obſervations from different parts of the world would be collected and compared by him. But having ſince underſtood that that affair is in your hands, though I have not yet had the pleaſure of ſeeing your paper upon it, and having had no return from Mr. Bliſs, I aſk leave to tranſmit a copy of it to you; and if you will be pleaſed to give it a place in your Tranſactions with a remark at the end (if you think it proper) ſhowing what the Sun's parallax comes out from the obſervation as it now ſtands (which I ſuppoſe will not differ much from the other determinations) I ſhall take it as a favour. This will do honour to the government who employed me. Perhaps, too, poſterity may be glad to ſee, and may make uſe of, the only obſervation of this rare phænomenon that was made in America.

I am, &c.

John Winthrop.